

Nursery Health Tracts, No. 1.

Scarlet Fever.




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THIS series of "Nursery Health Tracts" is designed to meet the demand for various special articles, on important subjects, which have appeared in BABYHOOD. Articles thus reprinted will be furnished at 5 cents each, or \$3 per hundred, postpaid.

Those thus far published are: No. 1, SCARLET FEVER, by John M. Keating, M.D.; No. 2, DIET FOR YOUNG CHILDREN, by L. Emmett Holt, M.D.; No. 3, DIPHTHERIA, by Henry D. Chapin, M.D.; No. 4, SOUND TEETH FOR CHILDREN, by F. D. Leslie, M.D. Other numbers will be issued later.

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SCARLET FEVER,

AND HOW TO NURSE IT.

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THERE is a misunderstanding which seems almost universal amongst mothers as to the nomenclature of this disease. It seems to be conceded that *scarlatina* means a very mild attack of *scarlet-fever*; possibly its terminal, "ina," may be looked upon as a diminutive, whereas in reality there is no such distinction. *Scarlatina* is the Latin name for *scarlet-fever* in all its forms—those most grave and those most mild. There is another point of great importance, which is, that the mildest cases of *scarlet-fever* have often the saddest ending, owing to the want of attention to those details of nursing which exclude the possibility of serious complications by exposure or neglect. Every doctor has heard the statement, when questioning in regard to the antecedents of a dropsy or possibly some destructive disease of the ear: "My child had only *scarlatina*; it was

so mild that really we did not see the necessity of punishing the little one by confining her to her bed or room."

Scarlatina is scarlet-fever, and a mild attack of this most treacherous disease may become as serious ultimately as a very severe attack—often more so, as the one will be cared for and the other neglected. It is, therefore, necessary thoroughly to understand the principal features of this disease.

Causes of Scarlet-Fever.

It is undoubtedly caused by the entrance into the system of a *something* which has all the characteristics of matter. This *something*, which, as we shall see, requires a certain time thoroughly to infect the blood in which it circulates before the symptoms of the disease show themselves, is called a *germ*; this germ has *weight*, proven by the fact that it occupies a certain space; can be carried in clothing or merchandise, or by the air; it remains in its position; it does not evaporate or become gaseous; it is transmissible, and at the same time is very subtle, can insinuate itself in cracks and crevices, in the breath of individuals, in the hair, in clothing, in the mails. It is a living material, whose vitality may lie dormant for years, and then, like grain, grow under favorable conditions; it can be destroyed by heat, probably by intense cold, or by chemical agents. But it is unlike

the grain in one most important characteristic, which is this : a grain—say of wheat—may have remained dormant since the time of the Pharaohs, and, taken from a mummy, placed in heat and moisture and dampness, it will sprout, but will only produce *one* stalk. The germ of scarlatina may lie dormant, but when aroused into activity by suitable associations it will act as a leaven—as a ferment ; this minutest microscopic object will perpetuate its species until it will invade every organ and tissue of the body. On this account this disease is classed as a *zymotic* one (from *zyma*, ferment).

But, more than this, in a few affections which are more or less like scarlet-fever in their modes of origination and progression, and consequently, we presume, in the course of their production, careful studies have been made ; the material has been filtered from the blood, examined under the microscope and found to be of definite shape and size, then placed in some clear, prepared solution (usually filtered broth of some kind) and allowed to multiply in number. These particles having been inoculated in animals or individuals, always produced the same disease, and *it only*. The minute microscopic objects, or *microbes*, as they have been called, can be inoculated and produce the disease whence they came, with great violence ; or they may be subjected to certain influences which weaken them, destroy their virulence, render them com-

paratively harmless, and then when inoculated they will produce in the animal or individual a very much milder attack of the disease. The microbe of the *splenic fever* of sheep, the so-called *wool-sorter's* disease, has been subjected by Pasteur to these influences, and animals inoculated with this weakened germ will have a mild attack that will protect them from another and graver one. Possibly vaccination does the same towards small-pox.

A mild attack, then, of one of these zymotic diseases will protect as well as a severe attack against a recurrence, and this is due probably to one of two things: viz., either some constitutional peculiarity of the individual which renders the germ of the disease harmless, or a very much weakened or modified virus.

Now, this seems all very plain and interesting, and its application is obvious.

How the Poison is Communicated.

Scarlet-fever can be communicated by infected milk, and, as far as we know, the milk has only to stand in the room where the disease exists or has existed, to absorb the germs, which are so subtle, so light and yet so tenacious as to float in the air, and adhere to particles of dust.

We all know how much dust is constantly floating in the air; let a beam of sunlight pass through an opening in the shutter, and we can readily see how the scales of skin from the body,

pieces of lint, etc., can carry these microbes, which may be thrown off in the mucus from the nostrils and mouth, or in the perspiration, and even the urine.

Not only are these secretions germ-carriers, that is, contagious—and they have all been proven so by direct inoculation—but the passages from the bowels, as well as the urine, are so—in that way sewer-air may be a means of their conveyance; drinking-water also, as well as the vapor from soil on which these matters have been thrown. Bear in mind, then, that the scarlatina poison can be carried in this way hundreds of miles; that it does not need the personal contact of individuals; that it retains its vitality for months, and even years, unless it be subjected to certain influences that either entirely destroy it or deprive it of its malignancy—these are intense heat, especially boiling or steam, plenty of fresh air, and certain chemical substances, as chlorine, sulphurous acid, and others. There is one other point which is important. It is now known that animals, such as horses and dogs, have a disease which is evidently scarlatina; they can be infected by the scarlatina of man, and probably their disease can be communicated to man.

The poison of scarlatina is, then, either *inhaled* by the individual or is *swallowed*. It is then taken up by the circulation, and, finding itself surrounded by material which develops it,

vivifies it, becomes rapidly reproduced, and the symptoms of the disease show themselves. This period between the reception of the poison and the appearance of the symptoms, is called the period of *incubation*; this is known to be either from *one* to *six* days, in some cases longer.

The First Symptoms and their Treatment.

Unless we definitely know that the child has been exposed to the disease, we cannot detect its presence till the rash appears, and this does so within twenty-four hours of the first symptoms. What are these? Chill or convulsions, delirium, intense headache, sore throat, swelling of the glands of the neck behind the jaw (kernels), nausea or vomiting, associated with high fever, bounding pulse, and dry skin. The first three of these may be absent in mild cases; the others are nearly always present to a greater or less degree.

Under such circumstances what should be done? The child should be put to bed by itself in a separate room; it should have a hot foot-bath, the water, with or without mustard, about as warm as the hand can bear. It should be lightly covered with a sheet and light blanket; it should be kept as quiet as possible, and given frequently warm milk in small quantities, with lime-water or so-called "cambric tea," and no solid food. Do not purge; in fact, avoid all medicine—with the exception of possibly a little

sweet spirits of nitre, a teaspoonful to half a tumbler of sweetened water—until the doctor arrives. At the end of from six to eighteen hours the rash will appear. It will be noticed in patches, fading into the normal color of the skin, on the neck, shoulder, and chest, then on the abdomen, and finally on the trunk, arms, and legs. It resembles the redness produced by a mustard-plaster, and feels rough to the hand when fully developed.

The disease is now fully determined ; the fever is high, the restlessness is usually increased, the throat symptoms are marked, and the secretions are diminished. The most urgent care is now to be taken in the nursing. All superfluous hangings, such as curtains and pictures, should be removed from the room.

The Nursing.

The child should be nursed by one who has all the details of the case under her charge, who should wear the simplest kind of clothing, that can be daily changed and washed or aired. She should have an adjoining room in which to keep her clothes and make her toilet. Everything that comes in contact with the child, such as towels, brushes, blankets, or sheets, should be kept rigidly separate, and thoroughly boiled and aired before being taken from the premises.

The room should be kept thoroughly ventilated either by keeping open a window in the ad-

joining room or by some arrangement attached to the window of the sick-room which will allow the ingress and egress of air without a draught ; its temperature should be kept at about 68 degrees, and regulated by a thermometer. If the room receives its heat from a furnace, the hot air should be made to pass over a pail of water containing either Labarraque's solution or Platt's Chlorides, and a towel with one end dipped in such a solution should be tacked over the register. If there be a stove, or, *better than all an open grate*, these solutions can be placed near by, so as to be readily evaporated and distributed throughout the room.

The chamber should always contain some such solution in which to receive the excreta. A small quantity of urine should daily be collected in a clean vessel for the doctor's examination. It is usual to anoint the child with some greasy substance ; this allays the intense itching or prickling, which is most annoying ; it softens the skin, which is inflamed and swollen ; it depresses the fever to a certain extent, and it serves to collect the scales of the skin, which, if shed, serve as carriers of contagion, and which are usually shed in flakes. The child should have its mouth washed once or twice daily, as also other parts of its body, for purposes of cleanliness, and the water used can contain either Labarraque's solution or vinegar Listerine, and possibly the doctor will order the frequent use of the hand-

spray, such as is employed with cologne, using some good disinfectant for the throat in these cases.

Complications and How to Avoid Them.

What are the dangers incident to scarlet-fever? Extensive disease of the throat with complications of diphtheria, disease of the ear with permanent deafness, disease of the eyes; more important than all, serious complications due to inflammation of the kidneys, made evident by dropsy, convulsions, often ending fatally. To avoid these, which may take place in the mildest cases, from exposure to draughts, imprudence, and want of cleanliness and attention, great care is necessary.

The question of bathing or sponging a child ill with scarlatina must be decided by the doctor. Sometimes it is necessary to depress the temperature, as a prolonged high temperature will kill; but in all cases, however severe, *cleanliness should be insisted upon*—the face and hands, the eyes, ears, mouth, and genitals, should be kept clean and free from secretions.

The temperature usually remains high till the decline of the disease—about the fourth or fifth day in ordinary cases. As soon as the fever has subsided and the eruptions have faded, and the skin-shedding is well established, it is customary to sponge the body off thoroughly in tepid water, and clean the head, using a fine sponge

or soft linen, avoiding draughts, and keeping the body well covered, with the exception of the part being washed. I have found a preparation known as "Little's Soluble Phenyl" admirable in this connection, a few drops of it being added to the water. It is disinfectant and leaves the skin soft. As kidney troubles usually show themselves during or following the *scaling* stage, greater precautions than ever are to be used at this time. The urine should be examined every day or two. The diet should be mostly liquid—that is, milk, or milk and lime-water, gruels, soups, and such like; the child should be encouraged to drink freely of water, the bowels must move daily, if necessary by an enema, and under no circumstances should the child be permitted to leave the room unless great precautions have been previously taken. In this climate we have to be very particular, owing to the sudden changes of temperature, and it is far better that the child should be kept in-doors a few days longer than the parents usually think necessary than to run the great risk of kidney diseases, or rheumatism with its serious effect upon the heart, which are bound to follow such exposure.

After the child has had several changes of underclothing, has been well washed a number of times, and at least two weeks have elapsed since the disease declined, it can be removed to another room, and the one occupied by it

fumigated. This should be done by igniting some sulphur in a saucer in the room, all the windows and doors having been previously closed, and the cracks stuffed. After twenty-four hours the room can be opened and full ventilation permitted. All the furniture should be wiped with a damp cloth, the paint-work washed with soap and water. The room should remain unoccupied for some time and thoroughly aired.

The school-room is undoubtedly the place most to be blamed for the distribution of scarlatina poison. To get rid of the children they are sent there whilst the mother is nursing the sick one at home. Some children possess a remarkable immunity from this disease, nevertheless they act as carriers of contagion. Then, again, servants or child-nurses often carry it in their heavy shawls from house to house, taking it directly from a sick room to the nursery.

Scarlatina, as far as we know at the present time, only comes from previous cases of the disease. *Cleanliness not only lessens the danger of serious complications which are often fatal, and mitigates the severity of an attack, but it is the great germ-destroyer, and prevents the spread of this dread disease in households.*

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